

Amendment

Amendment in response to Office action dated 9 June 2006

REMARKS/DISCUSSION OF ISSUES

Summary

Claims 1-6 are pending in the application. Claims 1-6 are rejected.

The Examiner's acknowledgement of receipt of the claim of priority and copies of the priority documents is noted with appreciation.

Rejections over Scott

Claims 1-6 are rejected under 35 U.S.C. 102(a) or 102(e) as anticipated by, or in the alternative, under 35 U.S.C. 103(a) as obvious over Scott et al. U.S. patent 6,639,362 (herein 'Scott').

Scott discloses a high pressure discharge lamp with an arc discharge vessel comprised of alumina and the following dopants in parts per million: MgO: 50-1500; HfO₂: 100-1500; ZrO₂: 0-700; Y₂O₃: 0-300; Sc₂O₃: 0-1000; Dy₂O₃: 0-1000; Tb₂O₃: 0-1000; with the proviso that at least 5 ppm of M₂O₃ be present. See col. 2, lines 47-63. Preferably, at least 100 ppm ZrO₂ is present. See col. 4, lines 42 and 43.

In contrast to the teachings of Scott, Applicant limits the amount of MgO to 1000 ppm, above which spinels undesirably form at the surface and in the bulk of the body. See page 2, lines 28-30 of Applicant's specification.

Spinels react with the filling of the lamp, causing properties such as lamp voltage, spectrum of the emitted light and/or color point, to change. This is particularly severe in lamps with unsaturated fillings, such as unsaturated high-pressure sodium (HPS) lamps. See page 2, lines 3-7 of Applicant's specification.

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Further in contrast to the teachings of Scott, Applicant requires the presence of ZrO₂, rather than making it an optional component. This is based on the recognition that ZrO₂ counteracts spinel formation. See page 2, lines 7 and 8 of Applicant's specification.

Further in contrast to the teachings of Scott, Applicant's second metal in oxidic form includes Er, Ho and Tl. This second metal regulates crystal growth, and limits exchange reactions with the filling of the lamp vessel.

Thus, Scott fails to anticipate claim 1, since:

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 U.S.P.Q. 2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989).

Since Scott fails to disclose: an upper limit of 1000 ppm for MgO; that ZrO₂ is an essential rather than an optional component; and that the second metal in oxidic form includes Er, Ho and Tl, Scott fails to anticipate Applicant's claims.

Moreover, in specifically teaching: an upper limit of 1500 ppm for MgO; that ZrO₂ is an optional component; and that the second metal in oxidic form is selected from Y₂O₃, Sc₂O₃, Dy₂O₃ and Tb₂O₃, Scott fails to suggest Applicant's claimed composition, and in fact leads the skilled artisan away from Applicant's claimed invention.

Accordingly, the rejected claims are neither anticipated by nor rendered obvious over Scott, and the rejections under 35 U.S.C. 102(a), 102(e) and 103(a) should be withdrawn.

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Rejection over Tiedt in view of Scott

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tiedt et al. U.S. patent 5,625,256 (herein 'Tiedt') further in view of Scott.

Tiedt discloses a high-pressure discharge lamp having a ceramic discharge vessel of alumina doped with 100-800 ppm MgO, 200-1200 ZrO₂ and 10-300 ppm Y₂O₃.

The teachings of Tiedt and Scott are in conflict regarding both the identities and amounts of the dopants MgO and ZrO₂. For example, Tiedt's upper limit for MgO is only 800 ppm, versus Scott's upper limit of 1500 ppm. Further, Tiedt requires the presence of ZrO₂, whereas Scott teaches that ZrO₂ is optional. Accordingly, with respect to MgO and ZrO₂, the skilled artisan would be led to rely on the teachings of Tiedt or Scott without experimentation to resolve the conflicting teachings.

With regard to Tiedt's teachings of 10-300 ppm Y₂O₃, Scott also teaches that Y₂O₃ may be present, in the amount of 0-300 ppm. Thus, both Tiedt and Scott agree on Y₂O₃ as a dopant, whereas Applicant does not claim Y₂O₃ as a dopant. The Examiner has argued that Scott teaches that Dy₂O₃ may be substituted for Y₂O₃ as a dopant. However, neither Tiedt nor Scott teach or suggest Applicant's other claimed dopants, Er, Ho and Tl in oxidic form.

Accordingly, the rejected claims are patentable over the combined teachings of Tiedt and Scott, and the rejection under 35 U.S.C. 103(a) should be withdrawn.

Conclusion

In view of the foregoing, claims 1-6 are patentable over the cited references, and Applicant respectfully requests that the Examiner withdraw the rejections of record, allow all of

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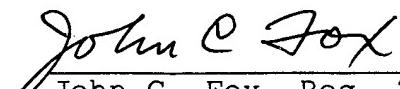
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the pending claims, and find the application to be in condition for allowance.

Respectfully submitted,


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